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10/724,284	11/26/2003	Debargha Mukherjee	200310816-1	1159

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EXAMINER

BATES, KEVIN T

ART UNIT	PAPER NUMBER
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2153

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/724,284	Applicant(s) MUKHERJEE ET AL.	
	Examiner KEVIN BATES	Art Unit 2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-19,33,34 and 37-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-19,33,34 and 37-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

This Office Action is in response to a communication received on May 9, 2008.

Claims 1-10, 20-32, and 36 have been cancelled.

Claims 11-19, 33-34, and 37 has been amended.

Claims 11-19, 33-34, and 37-43 are pending in this application.

Interview Summary

The examiner thanks the applicant for participating in the interview used to clarify the claim amendments and applicant's arguments. If there are any questions about the office action, the applicant is encouraged to call the examiner at the phone number listed at the end of this action.

Election/Restrictions

The applicant's argument, filed May 9, 2008, regarding the genus/species restriction is persuasive and the claims are no longer considered withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 11, 33, and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims have been amended to include the idea of defining explicit constraints on a scalable bitstream in terms of respective semantic independent functions. Paragraph 113 of the instant application discloses that the invention performs interpretation based on the resource descriptor metadata and outbound constraints and does not depend on the specifics of the actual content. It is unclear how this section or any section of the disclosure ensures that the constraints are defined by some semantic free format. Since the interpretation is disclosed as being based on some sort of metadata and outbound constraints, metadata exists as some sort of defined format, or semantic to allow the interpretation to be performed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 33, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite that the constraints enforced on the bitstream traffic are "semantic-independent" functions. It is unclear from the claim, in light of the specification, the definition of a function that is semantic-independent.

In a conversation with Applicant's Representative Ed Garcia on June 11, 1008, the applicant described a semantic-independent function as having functions that are introduced as equations or other computations to the transcoder as "on the fly" or on a per-bitstream basis. While the record does not this definition clear, for the purpose of further prosecution, the examiner will use the applicant's example provided in the interview as the interpretation of the claim limitations. If the applicant has any questions on the 112 rejections of the examiner's interpretation he is welcome to call the examiner for further clarification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-19 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalra (5953506) in view of Mukherjee et al. (Structured Scalable Meta-formats (SSM) version 1.0 for content agnostic Digital Item Adaptation) (Located in IDS filed March 8, 2004).

Regarding claims 11, 33, and 34, Kalra teaches a machine-implemented method, comprising:

receiving a scalable encoded bitstream comprising scalable encoded media data and values of non-media-type-specific scalability attributes corresponding to different adaption points of the scalable encoded media data (Column 18, lines 47 – 63);

obtaining receiving attributes for a destination of an outbound version of the scalable encoded bistream, wherein ones of the receiving attributes defined explicit constraints on the outbound version of the scalable encoded bitstream (Col. 15, line 45 – Col. 16, line 20);

determining values of adaptation measure from respective evaluations based on the values of the attribute variables (Col. 15, lines 1 – 14);

ascertaining a set of one or more candidate ones of the adaptation points of based on imposition of the constraints on the determined values the adaptation measures (Col. 16, lines 49 – 58);

selecting an adaptation point from the set of candidate adaption without regard to the scalable encoded media data, (Column 15, lines 51 – 54; Column 16, lines 20 – 24; lines 37-42; lines 53 – 58); and

transcoding the scalable bitstream in accordance with the selected adaptation point to produce the outbound version of the scalable encoded bitstream (Column 16, line 49 – Column 17, lines 8; Column 3, line 66 – Column 4, line 6).

Kalra does not explicitly indicate that the constraints are determined based on semantic-independent functions.

Mukherjee teaches that transcoders should scale media based on metadata descriptions and outbound constraints received on a per-media-stream bases, wherein the transcoder performs no actual determination about the actual contents of the bitstream format (Page 8-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the constraints be programmed by the media stream creator to allow a wide variety of stream formats to be processed by the transcoders.

Regarding claim 12, Kalra teaches the method of claim 11, wherein the determining comprises determining the value of at least one of the adaptation measures based at least in part on a multivariate function defined by a respective one of the receiving attributes and comprising a linear combination of products of univariate functions of ones of the scalability attribute variables (Column 17, lines 15 – 55).

Regarding claim 13, Kalra teaches the method of claim 12, wherein the ascertaining comprises comparing the at least one adaptation measure to at least one constraint function defined by a respective one of the receiving attributes (Column 16, lines 53 - 61).

Regarding claim 14, Kalra teaches the method of claim 11, wherein the ascertaining comprises comparing ones of the adaptation measures to ones of the receiving attributes limit constraints ascertaining (Column 16, lines 37 – 42; lines 53 - 61).

Regarding claim 15, Kalra teaches the method of claim 11, wherein the receiving attributes specified comprise optimization constraints ascertaining (Column 17, lines 15 – 55).

Regarding claim 16, Kalra teaches the method of claim 13, wherein the products comprise product terms and the determining comprises evaluating the multivariate function based on ones of the receiving attributes specifying at least one of:
a number of product terms in the linear combination; a number of elements in each product term; attribute codes for attributes in each product term; function codes for the univariate functions of the attribute values; and multipliers for the linear combination (Column 17, lines 15 – 55).

Regarding claim 17, Kalra teaches the method of claim 14, wherein the selecting comprises comparing ones of the adaptation measures to ones of the limit constraints specifying for at least one of one of the adaptation measures at least one of a maximum values and a minimum values supportable by the receiving destination (Column 15, lines 51 – 65).

Regarding claim 18, Kalra teaches the method of claim 15, wherein the selecting comprises selecting the adaptation point in accordance with at least one of the optimization constraints specifying at least one of a maximization and a minimization of a respective one of the adaptation measures (Column 16, lines 2 – 17).

Regarding claim 19, Kalra teaches the method of claim 11, wherein the selecting comprises determining at least one of the adaptation measures based at least

in part on an evaluation of a stack function comprising operations, and variables corresponding to ones of the scalability attributes (Column 17, lines 15 – 55).

Regarding claim 37, Kalra teaches the method of claim 11.

Kalra does not explicitly indicate wherein the scalable encoded bitstream additionally comprises description metadata specifying a hierarchical model of the bitstream, and the transcoding further comprises adapting the description metadata to represent the structure of the outbound version of the scalable encoded bitstream.

Mukherjee teaches wherein the scalable encoded bitstream additionally comprises description metadata specifying a hierarchical model of the bitstream, and the transcoding further comprises adapting the description metadata to represent the structure of the outbound version of the scalable encoded bitstream (Page 19 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the constraints be programmed by the media stream creator to allow a wide variety of stream formats to be processed by the transcoders.

Regarding claim 38, Kalra teaches the method of claim 11.

Kalra does not explicitly indicate wherein the scalable encoded bitstream specifies combination variables in terms of respective ordered lists of ones of numeric constants, variables, arguments, and operators; and further comprising evaluating each of the combination variables, wherein the evaluating comprising pushing the respective ordered list onto a respective expression stack.

Mukherjee teaches wherein the scalable encoded bitstream specifies combination variables in terms of respective ordered lists of ones of numeric constants, variables, arguments, and operators; and further comprising evaluating each of the combination variables, wherein the evaluating comprising pushing the respective ordered list onto a respective expression stack (Page 19 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the constraints be programmed by the media stream creator to allow a wide variety of stream formats to be processed by the transcoders.

Regarding claim 39, Kalra teaches the method of claim 38.

Kalra does not explicitly indicate wherein the pushing comprises pushing each constant into the respective expression stack, and the pushing of each constant comprises pushing a real numeric element corresponding to the constant into the respective expression stack.

Mukherjee teaches wherein the pushing comprises pushing each constant into the respective expression stack, and the pushing of each constant comprises pushing a real numeric element corresponding to the constant into the respective expression stack (Page 19 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the constraints be programmed by the media stream creator to allow a wide variety of stream formats to be processed by the transcoders.

Regarding claim 40, Kalra teaches the method of claim 38.

Kalra does not explicitly indicate wherein the pushing comprises pushing each variable into the respective expression stack, and the pushing of each variable comprises determining a numeric value of the variable for a set of adaptation points and pushing the determining numeric value into the respective expression stack.

Mukherjee wherein the pushing comprises pushing each variable into the respective expression stack, and the pushing of each variable comprises determining a numeric value of the variable for a set of adaptation points and pushing the determining numeric value into the respective expression stack (Page 19 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the constraints be programmed by the media stream creator to allow a wide variety of stream formats to be processed by the transcoders.

Regarding claim 41, Kalra teaches the method of claim 38.

Kalra does not explicitly indicate wherein the pushing comprises pushing one or more unary operators into the respective expression stack, and in response to pushing each unary operator into the respective expression stack, popping the unary operator and a successive top numeric stack element out of the respective expression stack, determining a result from the popped unary operator and numeric stack element, and pushing the result into the respective expression stack.

Mukherjee teaches indicate wherein the pushing comprises pushing one or more unary operators into the respective expression stack, and in response to pushing each unary operator into the respective expression stack, popping the unary operator and a successive top numeric stack element out of the respective expression stack,

determining a result from the popped unary operator and numeric stack element, and pushing the result into the respective expression stack (Page 19 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the constraints be programmed by the media stream creator to allow a wide variety of stream formats to be processed by the transcoders.

Regarding claim 42, Kalra teaches the method of claim 38.

Kalra teaches wherein the pushing comprises pushing one or more binary operators in the respective expression stack, and in response to pushing each binary operator into the respective expression stack, popping the binary operator and two successive top numeric stack elements out of the respective expression stack, determining a result from the popped binary operator and the two numeric stack elements, and pushing the result into the respective expression stack.

Mukherjee teaches wherein the pushing comprises pushing one or more binary operators in the respective expression stack, and in response to pushing each binary operator into the respective expression stack, popping the binary operator and two successive top numeric stack elements out of the respective expression stack, determining a result from the popped binary operator and the two numeric stack elements, and pushing the result into the respective expression stack (Page 19 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the constraints be programmed by the media stream creator to allow a wide variety of stream formats to be processed by the transcoders.

Regarding claim 43, Kalra teaches the method of claim 38.

Kalra teaches further comprising calling each of the combination variables specifying a number of arguments, and in response to each calling of a respective one of the combination variables, serially popping the specified number of top elements from the respective expression stack, and determining a value of the combination variable from the popped elements.

Mukherjee teaches a method comprising calling each of the combination variables specifying a number of arguments, and in response to each calling of a respective one of the combination variables, serially popping the specified number of top elements from the respective expression stack, and determining a value of the combination variable from the popped elements (Page 19 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the constraints be programmed by the media stream creator to allow a wide variety of stream formats to be processed by the transcoders.

Response to Arguments

Applicant's arguments with respect to claims 11, 33, and 34 have been considered but are moot in view of the new ground(s) of rejection.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Patents 5719786 and 5928330 both describe methods of constraining media streams without regard to the explicit format of the data stream.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN BATES whose telephone number is (571)272-3980. The examiner can normally be reached on 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin Bates/
Primary Examiner, Art Unit 2153